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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Chia-Ming Tsai

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EXAMINER

GAMI, TEJAL

ART UNIT

PAPER NUMBER

2121

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/640,555	TSAI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tejal J. Gami	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 2 recites the limitation "the status" in 14<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
3. Claim 2 recites the limitation "it" in the 18<sup>th</sup> line of the claim. It is unclear what the word "it" is referring to. There is insufficient antecedent basis for this limitation in the claim.
4. Claim 4 recites the limitation "the interconnecting" in the 3<sup>rd</sup> and 4<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 5 recites the limitation "the feedback" in the 3<sup>rd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 5 recites the limitation "the output" in the 3<sup>rd</sup> and 4<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
7. Claim 5 recites the limitation "its output" in the 4<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
8. Claim 5 recites the limitation "the phase angle" in the 5<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
9. Claim 6 recites the limitation "the new entrant" in the 2<sup>nd</sup> and 3<sup>rd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 6 recites the limitation "the manufacturer's ID" in the 4<sup>th</sup> line of the claim.  
There is insufficient antecedent basis for this limitation in the claim.
11. Claim 6 recites the limitation "the communication bus" in the 4<sup>th</sup> line of the claim.  
There is insufficient antecedent basis for this limitation in the claim.
12. Claim 6 recites the limitation "the received data" in the 4<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
13. Claim 6 recites the limitation "the system" in the 6<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
14. Claim 7 recites the limitation "the load" in the 6<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
15. Claim 7 recites the limitation "the functional capabilities" in the 7<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
16. Claim 7 recites the limitation "the parallel control bus" in the 8<sup>th</sup> and 9<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
17. Claim 7 recites the limitation "the operation" in the 10<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
18. Claim 7 recites the limitation "the local unit" in 10<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.
19. Claim 8 recites the limitation "the internal operation" in the 4<sup>th</sup> line of the claim.  
There is insufficient antecedent basis for this limitation in the claim.
20. Claim 8 recites the limitation "the discharging time" in the 6<sup>th</sup> line of the claim.  
There is insufficient antecedent basis for this limitation in the claim.

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21. Claim 11 recites the limitation "the DC bus" in the 5<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

22. Claim 11 recites the limitation "the inverters" in the 6<sup>th</sup> and 7<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

23. Claim 12 recites the limitation "the feedback voltage" in the 3<sup>rd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

24. Claim 12 recites the limitation "the inter-unit signaling switch" in the 4<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

25. Claim 14 recites the limitation "the virtual master" in the 2<sup>nd</sup> and 3<sup>rd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

26. Claim 15 recites the limitation "the input and output terminals" in the 3<sup>rd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

27. Claim 16 recites the limitation "the input capture" in the 2<sup>nd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

28. Claim 17 recites the limitation "the sync clocks" in the 1<sup>st</sup> and 2<sup>nd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

29. Claim 17 recites the limitation "the input capture" in the 2<sup>nd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

30. Claim 19 recites the limitation "the display and communication unit" in the 1<sup>st</sup> and 2<sup>nd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

31. Claim 20 recites the limitation "the functional capabilities" in the 4<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

32. Claim 20 recites the limitation "the voltage and frequency" in the 7<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

33. Claim 20 recites the limitation "the output power switch" in the 9<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

34. Claim 22 recites the limitation "the required duty cycle" in the 3<sup>rd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

35. Claim 26 recites the limitation "the input capture" in the 2<sup>nd</sup> and 3<sup>rd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

36. Claim 26 recites the limitation "microprocessor" in the 3<sup>rd</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

37. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

38. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Laufenberg et al. (U.S. Patent Number 6,396,170).

**As to independent claim 1**, Laufenberg discloses a method for controlling parallel operation of UPS (Fig. 1 UPS 10) modules by providing respective UPS modules with identical control logic (Fig. 2 control logic 40) (see Abstract) and functional capabilities for self-initiated role detection, master arbitration, and parallel processing,

and the capability to elect a virtual master among all the UPS modules for coordinating inter-unit signaling and controlling parallel operation, such that when the virtual master is found failed, all other parallel UPS modules will initiate a master arbitration to elect a new virtual master for coordinating the parallel operation (see Fig. 3 and Col. 3, Lines 25-42 for "modules in the peer role are also drawn upon when a vice-master needs to be appointed to the master role upon detection of a problem with that unit").

**As to dependent claim 2**, Laufenberg teaches the method for controlling parallel operation of UPS modules (Fig. 1 UPS 10) as claimed in claim 1, wherein respective UPS modules have functional capabilities to operate in the following operation modes (see Abstract):

self-initiated role detection mode used for determining the functional role of respective UPS module after the arbitration process as either a new entrant, virtual master or virtual slave (see Col. 9, Line 56 to Col. 10, Line 46);

new entrant operation mode wherein the UPS module first checks for a virtual master in the parallel UPS system and if the virtual master exists, the respective UPS module will enter a wait for the virtual master to issue a call-slave command, and from which the respective UPS module will switch itself over to the slave operation mode (see Col. 10, Lines 62-67); but

if the virtual master does not exist, the respective UPS module will initiate the master arbitration for electing a virtual master (see Col. 10, Lines 47-61);

master operation mode wherein the elected master sequentially checks the status of new entrants and virtual slave in the system, and then requests a response

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from the existing virtual slaves, and collects their operation data for controlling the parallel operation (see Col. 11, Lines 7-25); and

slave operation mode wherein the UPS module checks for a virtual master in the UPS system (see Col. 9, Line 56 to Col. 10, Line 46);

if it does not exist, the respective UPS module will change itself to become a new entrant, and then enter into the arbitration process for new virtual master (see Col. 9, Line 56 to Col. 10, Line 46).

**As to dependent claim 3**, Laufenberg teaches the method for controlling parallel operation of UPS modules (Fig. 1 UPS 10) as claimed in claim 2, wherein the respective UPS module further possesses the functional capability of synchronous mode switching, in situations where the system needs to be switched over all at once at a preset point (see Col. 11, Lines 27-43).

39. Claims 7-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Simonelli et al. (U.S. Patent Number 6,201,319).

**As to independent claim 7**, Simonelli discloses a modular uninterruptible power supply system (Fig. 6 UPS system 200) including one or more UPS modules connected in parallel (Fig. 6 power module 104), wherein a respective UPS module comprises:

one or more DC inputs (see Col. 7, Lines 64-67) and AC input phases (see Col. 10, Lines 25-51);

one or more AC output phases (see Col. 10, Lines 25-51);

an AC output being connected in parallel to the load (see Col. 5, Lines 52-63);



a unit controller (Fig. 6 MIM 114) with the functional capabilities for self-initiated role detection, mode switching, and master arbitration through the parallel control bus (see Col. 12, Lines 28-32); and

a parallel control bus for controlling the operation of the local unit and coordinating the parallel operation (see Col. 14, Lines 62-67).

**As to independent claim 20**, Simonelli discloses a UPS module in a modular power supply system (Fig. 6 UPS system 200) has a power unit (Fig. 6 power module 104) (see Col. 7, Lines 24-29), comprising an AC/DC converter (Fig. 7 AC/DC converter 244) (see Col. 7, Lines 31-32), a DC/DC converter (Fig. 7 DC/DC converter 246) (see Col. 7, Lines 24-29), a DC bus (Fig. 6 DC bus 212) (see Col. 5, Lines 64-66) and a DC/AC inverter (Fig. 7, DC/AC 238) (see Col. 7, Lines 51-53); and

a unit controller (Fig. 6 MIM 114) built in with the functional capabilities for self-initiated role detection, master arbitration, and parallel processing (see Col. 12, Lines 28-32), and including an I/O control circuit and parallel control bus (see Col. 6, Lines 14-31), wherein the I/O control circuits detect the voltage and frequency of AC input, voltage of DC input, and voltage, current and frequency of AC output for controlling the output power switch of AC output (see Col. 9, Lines 20-43).

**As to dependent claim 8**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 7, wherein the system further includes:

a display and communication unit for providing meaningful data to users with regard to the internal operation and for monitoring software programs (see Col. 12, Lines 17-48);

an optional external battery being connected to the DC input for extending the discharging time (see Col. 5, Line 64 to Col. 6, Line 5; and Col. 6, Lines 32-39);

an optional charger for charging all the batteries (see Col. 7, Lines 51-59);

an optional output transformer being connected to the output of the UPS module (see Col. 4, Lines 35-54); and

an optional manual bypass switch being installed between the inputs and outputs of the UPS module (see Col. 5, Lines 38-50).

**As to dependent claim 9**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 7, wherein the AC input voltage should possess a plurality of phases in one cycle (see Col. 10, Lines 25-51), whereby the UPS module can be connected by a plurality of wires and switches to adapt to a multi-phase AC input (see Col. 5, Lines 38-51).

**As to dependent claim 10**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 7, wherein the DC input comes from batteries, which can be installed in the UPS module (see Col. 5, Line 64 to Col. 6, Line 5), or externally connected to the UPS module (see Col. 6, Lines 32-39).

**As to dependent claim 11**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 7, wherein the unit controller (Fig. 6 MIM 114) of the respective UPS module further comprises a general-use I/O control circuit (see Col. 6, Lines 14-31), whereby the unit controller (Fig. 6 MIM 114) is able to control the output power switch of AC output and the parallel control bus basing on the feedback of voltage and frequency signals from the DC bus, DC input, AC input and AC output, and

AC input, and output current, and conduction current from the inverters (see Col. 9, Lines 20-43).

**As to dependent claim 12**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 11, wherein the unit controller (Fig. 6 MIM 114) further includes a microprocessor for controlling I/O operations, output power switch using the feedback voltage and current data from AC output, and the inter-unit signaling switch (see Col. 9, Lines 20-43).

**As to dependent claim 13**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 11, wherein the unit controller (Fig. 6 MIM 114) further includes a photo-coupled bi-directional control bus, a communication bus and an analog signal synthesis line (see Col. 10, Lines 10-24).

**As to dependent claim 14**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 13, wherein the photo-coupled bi-directional control bus has one wire used for configuring the virtual master (see Col. 10, Lines 10-24), and another wire for transmitting sync clocks from the virtual master to synchronize the parallel operation (see Col. 10, Lines 25-51).

**As to dependent claim 15**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 13, wherein the photo-coupled bi-directional control bus (see Col. 10, Lines 10-24) has incorporated impedance matching on the input and output terminals (see Col. 5, Lines 16-37).

**As to dependent claim 16**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 14, wherein the sync clocks are directly passed to

the input capture of the unit controller (Fig. 6 MIM 114) for detecting input and output frequencies (see Col. 10, Lines 25-51).

**As to dependent claim 17**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 15, wherein the sync clocks are directly passed to the input capture of the unit controller (Fig. 6 MIM 114) for detecting input and output frequencies (see Col. 10, Lines 25-51).

**As to dependent claim 18**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 13, wherein the analog signal synthesis line includes a switch for controlling the synthesis of output current from UPS modules connected in parallel in accordance with a predetermined ratio, and the switch is disconnected if found not necessary (see Col. 14, Lines 62-67).

**As to dependent claim 19**, Simonelli teaches the modular UPS system (Fig. 6 UPS system 200) as claimed in claim 7, wherein the display and communication unit is hot swappable, and acts as a source for sync clock signals received by all parallel UPS modules (see Col. 10, Lines 25-51).

**As to dependent claim 21**, Simonelli teaches the UPS module (Fig. 6 UPS system 200) as claimed in claim 20, wherein the UPS module further includes an optional charger and a power supply unit (see Col. 7, Lines 19-30).

**As to dependent claim 22**, Simonelli teaches the UPS module (Fig. 6 UPS system 200) as claimed in claim 20, wherein the UPS module further includes a microprocessor for controlling the inverter operation (Fig. 7, DC/AC 238) in either standalone or parallel connection mode (see Col. 7, Lines 51-53), computing the

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required duty cycle for the output power switch (see Col. 10, Lines 25-51), detection of voltage and frequency signals from both input and output (see Col. 9, Lines 20-43), and inter-unit signaling between UPS modules during parallel operation (see Col. 13, Lines 42-50).

**As to dependent claim 23**, Simonelli teaches the UPS module (Fig. 6 UPS system 200) as claimed in claim 20, wherein the unit controller (Fig. 6 MIM 114) has a parallel control bus formed by an analog signal synthesis line, a photo-coupled bi-directional control bus and a communication bus, whereby the respective UPS module is able to maintain the parallel connection with other parallel UPS modules (see Col. 10, Lines 10-24).

**As to dependent claim 24**, Simonelli teaches the UPS module (Fig. 6 UPS system 200) as claimed in claim 22, wherein the UPS module can use the microprocessor and the parallel control bus to elect a virtual master through an arbitration process to be responsible for synchronizing the output of all parallel UPS modules (see Col. 10, Lines 25-51).

**As to dependent claim 25**, Simonelli teaches the UPS module (Fig. 6 UPS system 200) as claimed in claim 23, wherein the photo-coupled bi-directional control bus is used for receiving signals from other parallel UPS modules or transmitting signals to other UPS modules (see Col. 10, Lines 10-24).

**As to dependent claim 26**, Simonelli teaches the UPS module (Fig. 6 UPS system 200) as claimed in claim 25, wherein the photo-coupled bi-directional control

bus has a wire used for transmission of sync clocks to the input capture of the microprocessor in the unit controller (Fig. 6 MIM 114) (see Col. 10, Lines 10-51).

***Claim Rejections - 35 USC § 103***

40. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

41. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Laufenberg et al. (U.S. Patent Number 6,396,170) as applied to claim 3 above, and further in view of Ghaffari (U.S. Patent Number 5,751,220).

**As to dependent claim 4**, Laufenberg teaches the method for controlling parallel operation of UPS modules (Fig. 1 UPS 10) as claimed in claim 3 (see Laufenberg: Abstract). However, Laufenberg does not mention optional wireless control. Ghaffari teaches the respective UPS module further possesses the functional capability of an optional wireless control mode, in situation where the interconnecting communication bus is inoperative the respective UPS module can decide for itself to switch over to wireless control of parallel operation (see Ghaffari: Col. 13, Lines 56-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized optional wireless control as taught by Ghaffari to the method of Laufenberg because the operation of a plurality of electronic devices is synchronized (see Ghaffari: Abstract and Fig. 6A antenna 52).

42. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Laufenberg et al. (U.S. Patent Number 6,396,170) modified by Ghaffari (U.S. Patent Number 5,751,220) as applied to claim 4 above, and further in view of Larsen et al. (U.S. Patent Number 5,798,633).

**As to dependent claim 5**, the combination of Laufenberg and Ghaffari teaches the method for controlling parallel operation of UPS modules as claimed in claim 4. Ghaffari clearly teaches wireless control (see Ghaffari: Col. 13, Lines 56-62). However, the combination of Laufenberg and Ghaffari do not mention a droop method. Larsen teaches the control is implemented using a droop method, whereby the respective UPS module uses the feedback data from the output of the UPS module to determine if its output contains more active power or reactive power, and from which the phase angle and amplitude of the output voltage signal can be controlled by an appropriate means (see Larsen: Col. 9, Lines 31-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized a droop method as taught by Larsen to the wireless control of Laufenberg modified by Ghaffari because the feedback signal through the regulator droop block will result in a decrease in the voltage error signal (see Larsen: Col. 9, Lines 35-38).

43. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Laufenberg et al. (U.S. Patent Number 6,396,170) as applied to claim 2 above, and further in view of Madany et al. (U.S. Publication Number 2004/0177283).

**As to dependent claim 6**, Laufenberg teaches the method for controlling parallel operation of UPS modules (Fig. 1 UPS 10) as claimed in claim 2 (see Laufenberg: Abstract), wherein the respective UPS module operating in the new entrant operation mode is able to arbitrate for the virtual master (see Laufenberg: Col. 10, Lines 47-67). However, Laufenberg does not mention broadcasting the manufacturer's ID code onto the communication bus. Madany teaches broadcasting the manufacturer's ID code onto the communication bus (see Madany: [0056]); if the received data is found to contain the same ID code as that previously sent out, the respective UPS module will configure itself to be the virtual master in the system (see Madany: [0056]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the manufacturer's ID as taught by Madany to the method of Laufenberg because if one or more status signals do not include a unique identifier, the redundant system recognizes that the power input line plugged into a UPS facility whose status signal does not include a unique ID is not using the identification protocol or that the UPS facility is erroneously not sending a unique ID (see Madany: [0056]).



***Conclusion***

44. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mohat (U.S. Patent Number 4,356,403) teaches a masterless power supply arrangement.

Kikuchi (U.S. Patent Number 6,041,414) teaches an uninterruptible power supply apparatus which supplies guaranteed power to electronic apparatuses in a system.

Loh (U.S. Patent Number 6,121,695) teaches modular power supply.

Real (U.S. Patent Number 6,493,243) teaches a redundant power system and power supply therefor.

45. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tejal J. Gami whose telephone number is (571) 270-1035. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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TJG

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